

REMARKS/ARGUMENTS

The Office Action mailed August 18, 2003, has been received and reviewed. Claims 1 through 34 are currently pending in the application. Claims 1 through 34 stand rejected. Applicant respectfully requests reconsideration of the application as amended herein.

In the Specification, paragraph 24 has been modified to reflect that patent application Serial No. 09/217,040 has now issued as Patent No. 6,417,484.

35 U.S.C. § 102(e) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 6,226,394 to Wilson et al.

Claims 1, 3 through 9, 18, and 20 through 26 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Wilson et al. (U.S. Patent No. 6,226,394). Applicant respectfully traverses this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Regarding claim 1, Applicant respectfully suggests that the present application is not anticipated by Wilson et al. because each and every claim element is not set forth either expressly or inherently in Wilson et al.

First, the Office Action states that Wilson et al. teach the element from claim 1 of, "reading an ID code on said multi-die handling device," and indicates that column 4 lines 15-43 teach this element. Applicants respectfully disagree. Wilson et al. teach, "each of the IC devices includes a mounting substrate, such as a lead frame or a printed circuit (PC) board, on which substantially unique **mounting substrate** identification (ID) code is marked." (col. 4 lines 22-26) Whereas, in the present invention the multi-die handling device is intended as a temporary handling and storage device for a plurality of die while they proceed through testing prior to

mounting. This is apparent from the specification for the current invention at paragraph 22 stating, “these semiconductor devices, from mixed lots and with unknown parameters, are placed in a **multi-die handling device and tested in tray.**” Applicant does not see how Wilson et al. teach the multi-die handling device of the present invention. In describing the IC devices, Wilson et al. further teach that “[t]he method is applicable to a variety of IC devices including, for example, lead frame devices, Single In-Line Memory Modules (SIMMS), Dual In-Line Memory Modules (DIMMs), and Multi-Chip Modules (MCMs).” (col. 4, lines 17-22) While many of these enumerated device types may contain multiple dice, they are all in the form of a “mounting substrate,” rather than a multi-die handling device where each die can be tested in the tray prior to packaging or mounting on a substrate.

Second, the Office Action states Wilson et al. teach the element from claim 1 of “determining a tray matrix of the multi-die handling device (i.e. lot numbers).” This suggests that determining a tray matrix is analogous to lot numbers. Applicant respectfully disagrees. While a lot number may be associated with each die placed in the matrix, the lot number for each die, if present, would be part of the tray map file and not some type of indicator of location within the matrix. In the present application, “[t]ray mapping is the logical assignment of pocket locations within the boundaries of a multi-die handling device, such as a JEDEC tray 100 shown in drawing FIG. 1. The purpose of tray mapping is to establish a correlation between the location of devices in a tray and the tray itself.” (Paragraph 1) In addition, Applicant can find no reference in Wilson et al. to a tray with devices in rows and columns, or determining the pocket locations within the rows and columns. The only reference in Wilson et al. to a rectangular array or a matrix is to an ID code as evidenced by, “[t]his ID code may be, for example, a bar code, an Optical Character Recognition (OCR) code, or, preferably, a **coded hole matrix** laser scribed into the substrate. In the inventive method, the ID codes of the IC devices are read using, for example, a bar code reader, OCR reader, or **optical hole reader.**” This refers to an ID code written into the substrate with holes arranged in a matrix fashion, rather than a matrix of locations to place devices.

For these reasons, each and every element as set forth in the claim is not found, either expressly or inherently described, in Wilson et al. for claims 1. Specifically, the elements of “reading an ID code on said multi-die handling device” and “determining a tray matrix of the multi-die handling device” are not set forth described in Wilson et al.. As a result, Applicant respectfully requests that the §102 rejection of claim 1 be withdrawn.

Regarding claims 3, 4, 8, and 9, these claims are dependent on now allowable independent claim 1. As a result, these claims are now allowable and applicant respectfully requests that the rejection of claims 3, 4, 8, and 9 be withdrawn.

We turn now to claims 18, 23, 25, and 26. As to independent claim 18, Applicant reiterates the arguments stated above in relation to the elements in claim 18 of “reading an ID code on said multi-die handling device” and “determining a tray matrix of said multi-die handling device.” Additionally, the Office Action indicates that the element in claim 18 of “**placing** at least one semiconductor device in at least one pocket of the **multi-die handling device**,” is taught by Wilson et al. at col. 6, line 59 to col. 7, line 12, and col. 9, lines 25-58. Once again, in the reference from col. 6, line 59 to col. 7, line 12, Wilson et al. teach lead frames and mounting substrates. Applicants must assume that the Office Action is referring to lead frames prior to singulization to arrive at the multi-die aspect of the present invention. However, in the reference portion from col. 9, lines 25-58, Wilson et al. teach “providing a mounting substrate; providing a plurality of integrated circuit devices, placing a **substantially unique identification code on the mounting substrate** in a readable position thereon; placing an identification code on the each integrated circuit device of the plurality of integrated circuit devices . . . **mounting** at least one of the plurality of integrated circuit devices on the mounting substrate.” In the Wilson et al. reference, the mounting substrate receives the unique identification code. However, in the present invention each semiconductor device receives the unique characters. Additionally, Applicant asserts that mounting and placing are not equivalent. “Placing” in the present application denotes putting the semiconductor devices in the multi-die handling device without affixing them thereto.

For these reasons, each and every element as set forth in claim 18 is not found, either expressly or inherently described, in Wilson et al.. As a result, Applicant respectfully requests that the §102 rejection of claim 18 be withdrawn.

Regarding claims 23, 25, and 26, these claims are dependent on now allowable independent claim 18. As a result, these claims are now allowable and applicant respectfully requests that the rejection of claims 23, 25, and 26 be withdrawn.

Regarding claims 5-7, 20-22, and 24, these claims are dependent on now allowable independent claims. Specifically, claims 5-7 are dependent on now allowable independent claim 1, while claims 20-22 and 24 are dependent on now allowable independent claims 18. As a result, these claims are now allowable and applicant respectfully requests that the rejection of claims 5-7, 20-22, and 24 be withdrawn.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 6,226,394 to Wilson et al. in View of U.S. Patent No. 6,230,896 to Lambert

Claims 2 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilson et al. (U.S. Patent No. 6,226,394) in view of Lambert (U.S. Patent No. 6,230,896). Applicant respectfully traverses this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

Regarding claims 2 and 19, these claims are dependent on now allowable independent claims 1 and 18 respectively. As a result, these claims are now allowable and applicant respectfully requests that the rejection of claims 2 and 19 be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 6,226,394 to Wilson et al. in View of U.S. Patent No. 5,927,512 to Beffa

Claims 10, 11, 13 through 17, 27, 28, and 30 through 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilson et al. (U.S. Patent No. 6,226,394) in view of Beffa (U.S. Patent No. 5,927,512). Applicant respectfully traverses this rejection, as hereinafter set forth.

We first address independent claims 10 and 27. Applicant reiterates the arguments stated above regarding elements in independent claim 1. Similar elements, which are not taught by Wilson et al., are identified in claims 10 and 27. The first element is “reading the ID code on said at least one carrier” from claim 10 and “reading the ID code on a carrier” from claim 27. The second element is “determining a tray matrix of said at least one carrier” from claim 10 and “determining a tray matrix of the carrier” from claim 27. The difference being that in the claim 1 discussion above, the claim referred to a multi-die handling device, whereas claims 10 and 27 refer to a carrier. However, from the specification, “as used herein, the terms “tray,” “carrier,” and “multi-die handling device” are used interchangeably.” (Last sentence of paragraph 18) Additionally, Applicant can find no reference to these elements in Beffa. As a result, all the claim limitations are not taught or suggested by the references, individually or combined, as required for a proper § 103(a) obviousness rejections. Therefore, Applicant respectfully requests that the rejection of claims 10 and 27 be withdrawn.

Regarding claims 11, 16, and 17, these claims are dependent on now allowable independent claim 10. As a result, these claims are now allowable and applicant respectfully requests that the rejection of claims 11, 16, and 17 be withdrawn.

Regarding claims 28, 33, and 34, these claims are dependent on now allowable independent claim 27. As a result, these claims are now allowable and applicant respectfully requests that the rejection of claims 28, 33, and 34 be withdrawn.

Regarding claims 13, 14, 30 and 31, these claims are dependent on now allowable independent claims. Specifically, claims 13 and 14 are dependent on now allowable independent claim 10, while claims 30 and 31 are dependent on now allowable independent claims 27. As a result, these claims are now allowable and applicant respectfully requests that the rejection of claims 13, 14, 30, and 31 be withdrawn.

Regarding claims 15 and 32, these claims are dependent on now allowable independent claims 10 and 27 respectively. As a result, these claims are now allowable and applicant respectfully requests that the rejection of claims 15 and 32 be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 6,226,394 to Wilson et al. in View of U.S. Patent No. 5,927,512 to Beffa and U.S. Patent No. 6,230,896 to Lambert

Claims 12 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilson et al. (U.S. Patent No. 6,226,394) in view of Beffa (U.S. Patent No. 5,927,512) and Lambert (U.S. Patent No. 6,230,896). Applicant respectfully traverses this rejection, as hereinafter set forth.

Claims 12 and 29 are dependent on now allowable independent claims 10 and 27 respectively. As a result, these claims are now allowable and applicant respectfully requests that the rejection of claims 12 and 29 be withdrawn.

CONCLUSION

Claims 1-34 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,



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